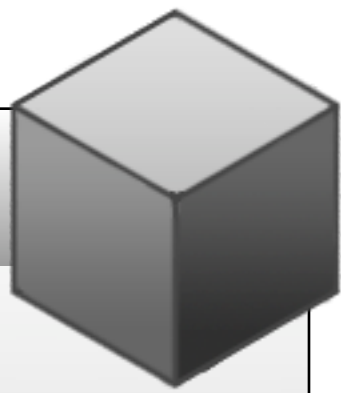


Section 3-1

Changing Windows

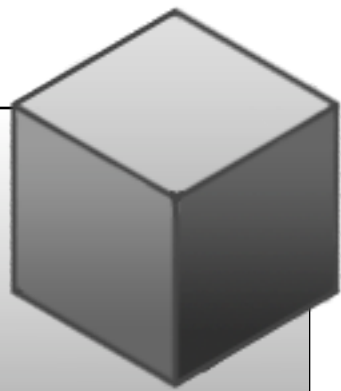


Transformation: When a one-to-one correspondence exists between sets of points

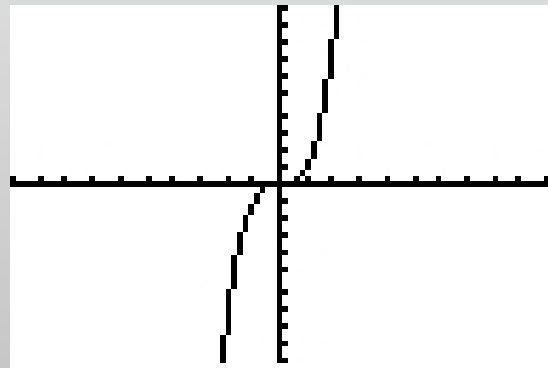
Basically, there is a change that is applied to all of the points



Warm-up



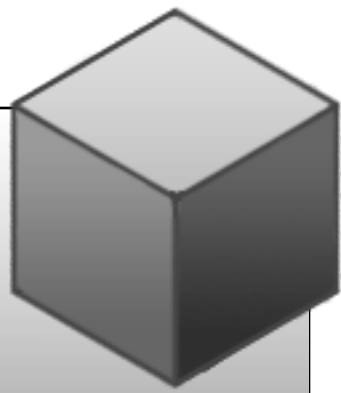
Graph $y = x^3$ with your calculator. Use the default window



1. Describe the default window.

$$-10 \leq x \leq 10, -10 \leq y \leq 10, x \text{ and } y \text{ scale} = 1$$

Warm-up

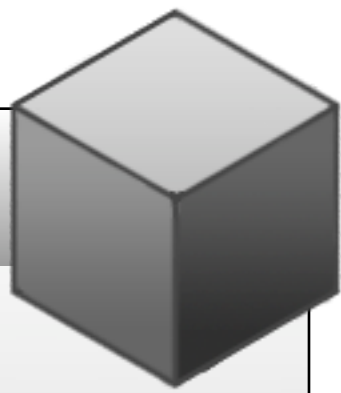


2. For what window will the graph go from the lower left corner to the upper right corner?

$$-1 \leq x \leq 1, -1 \leq y \leq 1, x \text{ and } y \text{ scale} = 1$$

3. For what window will the graph look nearly like a horizontal line?

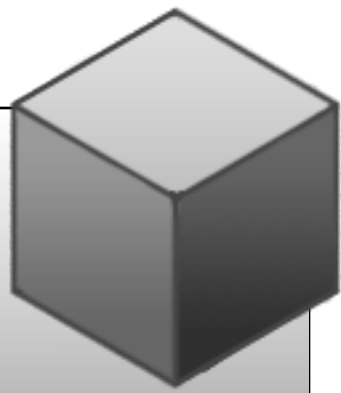
$$-.01 \leq x \leq .01, -.01 \leq y \leq .01, x \text{ and } y \text{ scale} = .01$$



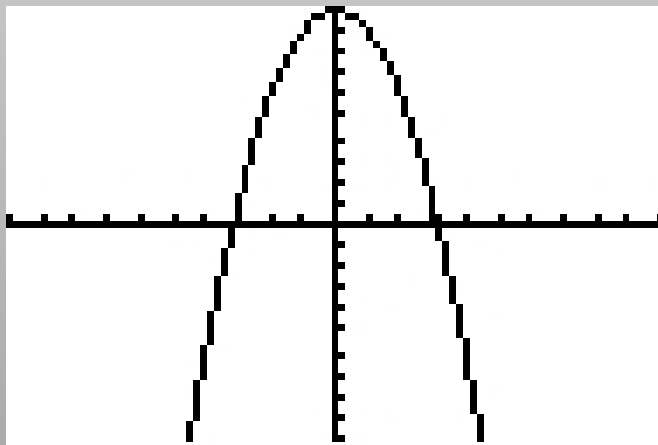
Viewing Window: The part of the coordinate plane that you see graphed on your calculator

Default Window: The normal graphing window, where
 $-10 \leq x \leq 10$, $-10 \leq y \leq 10$, x and y scale = 1

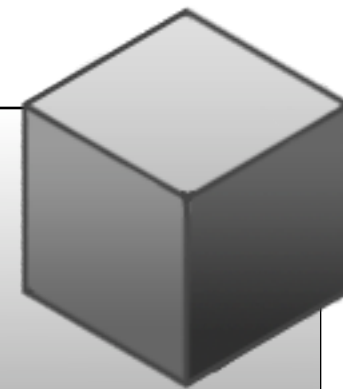
Example I



- a. Sketch the graph of $y = 10 - x^2$, naming key points on the graph.
- b. Now graph it in your graphing calculator. Does the graph look the same?

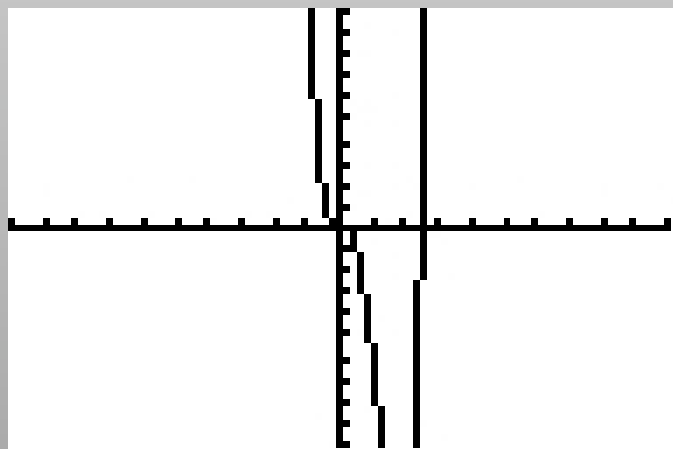


Example 2

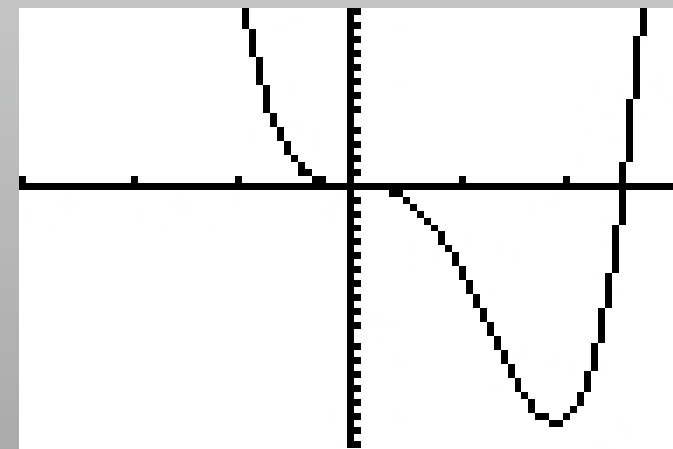


a. Sketch the graph of $4x^4 - 10x^3$.

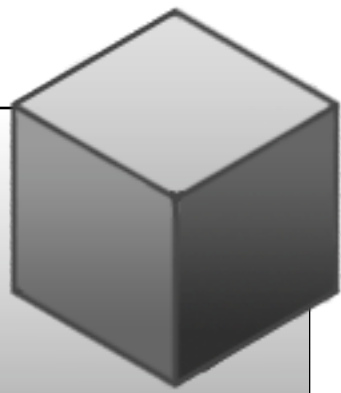
b. Now graph it in your calculator. Does the graph look the same?



```
WINDOW
Xmin=-3
Xmax=3
Xscl=1
Ymin=-18
Ymax=12
Yscl=1
Xres=1
```



Example 2



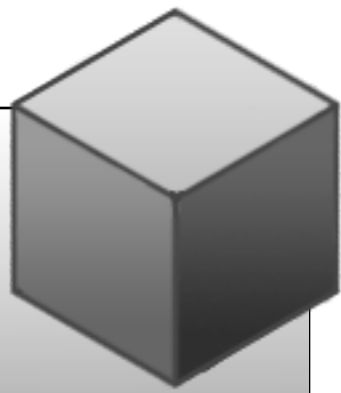
c. How can we make sure that our graphs are accurate and neat?

Adjust the window and scale as necessary.

Be aware of what kind of graph you are graphing and what it should look like.

Anything else?

Example 2



d. What should be included in ALL graphs?

Labeled axes

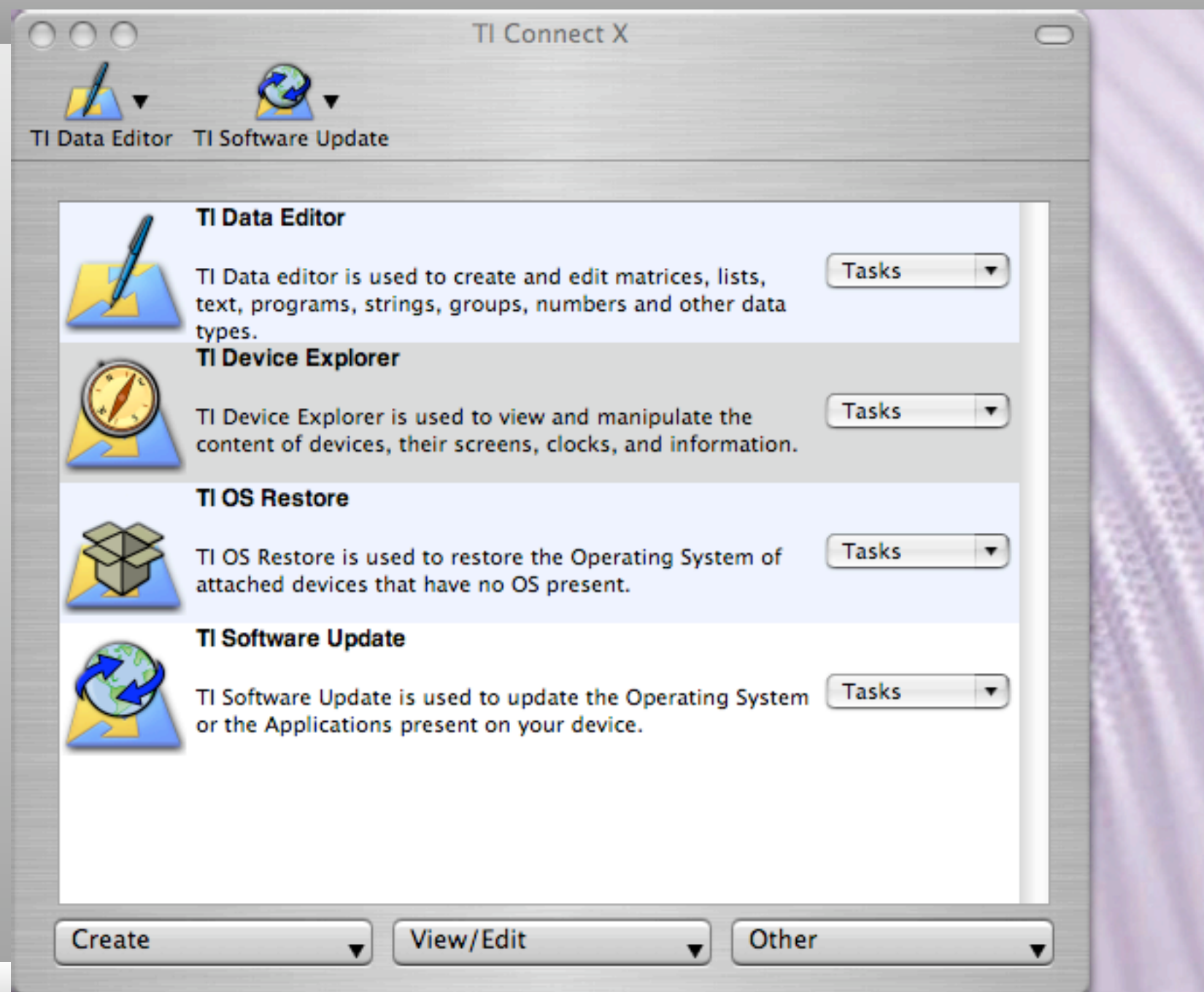
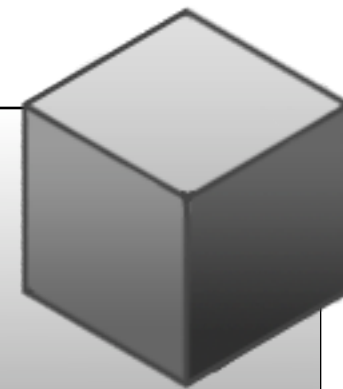
Scales on axes (if scale $\neq 1$)

An accurate representation of the shape of the graph

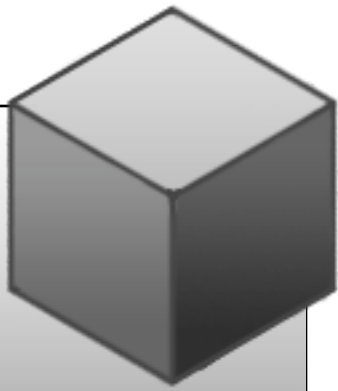
All intercepts

Points of discontinuity

Using TI Connect



Homework



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